

What is claimed is:

1. A robust coiled electrode for an electrochemical cell, comprising an elongated electrode assembly having a coiled and generally flat configuration, said assembly having a final winding, and wherein a lateral thickness dimension of the final winding is less than the remaining, inner windings; and an unperforated, substantially planar current collector configured to be coupled to an outer surface portion of the final winding.
2. A coiled electrode according to claim 1, wherein the elongated electrode assembly further comprises: a first relatively thick member and a second relatively thin member coupled together to form an overlapping region.
3. A coiled electrode according to claim 2, further comprising: a spacer member disposed on a portion of an inner face of the final winding of the electrode assembly.
4. A coiled electrode according to claim 3, wherein said spacer member has a shape corresponding to the current collector and at least partially extends beyond a peripheral edge of the current collector.
5. A coiled electrode assembly according to claim 4, wherein said spacer member at least partially overlaps at least a portion of the overlapping region.
6. A coiled electrode according to claim 2, wherein said electrode assembly further comprises a sheet-type dielectric separator disposed over at least the exposed surface of the current collector.

-15-

7. A coiled electrode according to claim 6, wherein said dielectric separator substantially surrounds the electrode assembly.
8. A coiled electrode according to claim 7, wherein said dielectric separator further comprises: at least two layers of separator material.
9. A coiled electrode according to claim 8, wherein a peripheral edge of said at least two layers of separator material are sealed together to form a dielectric pouch around said electrode assembly.
10. A coiled electrode according to claim 2, wherein a portion of said current collector covers at least a portion of the overlapping region.
11. A coiled electrode according to claim 10, wherein said current collector is disposed closely adjacent to the terminal end of the final winding.
12. A coiled electrode according to claim 2, wherein at least a portion of the current collector is disposed adjacent at least a portion of the overlapping region.
13. A coiled electrode according to claim 3, wherein said spacer member comprises at least two sheets of material.
14. A coiled electrode according to claim 2, wherein said elongated electrode assembly comprises a lithium material.
15. A coiled electrode according to claim 14, wherein said current collector comprises: a nickel material, a copper material, a titanium material, or an alloy thereof.

-16-

16. A coiled electrode according to claim 6, further comprising an additional portion of separator material disposed adjacent a planar portion of the proximal, interior end of the elongated electrode assembly.
17. A coiled electrode according to claim 1, further comprising:
a reinforcing member coupled to the overlapping region.
18. A coiled electrode according to claim 17, wherein said reinforcing member comprises an alkali metal.
19. A coiled electrode according to claim 18, wherein said alkali metal comprises a lithium material.